



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,769	04/09/2004	Erol Sancaktar	089498-0354(CIP)	1443

7590 12/30/2004  
Roetzel & Andress  
222 South Main Street  
Akron, OH 44308

EXAMINER

KING, BRADLEY T

ART UNIT	PAPER NUMBER
----------	--------------

3683

DATE MAILED: 12/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

**Application No.**

10/821,769

**Applicant(s)**

SANCAKTAR ET AL.

**Examiner**

Bradley T King

**Art Unit**

3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 and 28-31 is/are pending in the application.
- 4a) Of the above claim(s) 21-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 28-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 21-26 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of group I in the reply filed on 10/06/2004 is acknowledged. The traversal is on the ground(s) that, since the method of making the spring results in a spring with an outer layer similar to that of the claims of group I, the groups can properly be examined together. This is not found persuasive because the inventions of group I and II are distinct as set forth in the restriction requirement and therefore restriction is proper.

The requirement is still deemed proper and is therefore made FINAL.

Claims 21-26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 10/06/2004.

### ***Drawings***

The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81. No new matter may be introduced in the required drawing.

***Claim Objections***

There is no claim number 27 in the present application. Please renumber claims 28-31 so that the claim numbers are in consecutive order.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 12-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20 recites "said core". There is insufficient antecedent basis for this limitation in the claims.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 9-20, and 28-31 are rejected under 35 U.S.C. 102(b) as being anticipated by US# 6454251.

US 6454251 discloses all the limitations of the instant claims including; a spring wire comprising a core that includes a plurality of fiber tows 10 (figure 2c) twisted about a longitudinal axis to create a contoured core surface; and an outer layer of resin that is

substantially devoid of said fiber tows, wherein said outer layer has a thickness that varies along the longitudinal axis to form a generally uniform outer surface about the core. Note that a varied thickness is inherently formed when the saturated twisted or braided fibers are confined by cladding 1 and cured. US 6454251 further discloses using copper pipe as cladding which would provide an extremely smooth outer surface.

Regarding claims 9-11, 6454251 discloses glass fibers and epoxy resins.

Regarding claims 12-20, it is maintained that the recited method steps fail to further structurally define the claimed spring. See MPEP 2113.

Regarding claims 29-31, it is noted that the recited equations are standard equations used to describe coil springs. It is maintained that the performance of the spring of US 6454251 is inherently predictable by the standard equations since it is a coil spring.

Claims 1-5, 8-20, and 28-31 are rejected under 35 U.S.C. 102(b) as being anticipated by US# 2852424.

US 2852424 discloses all the limitations of the instant claims including; a spring wire comprising a core that includes a plurality of fiber tows 14 (note column 3, lines 70-75) twisted about a longitudinal axis to create a contoured core surface; and an outer layer of resin that is substantially devoid of said fiber tows(since the fiber tows are saturated with resin, an outer layer of some degree of thickness inherently exists between the tows and the outer tube 12), wherein said outer layer has a thickness that varies along the longitudinal axis to form a generally uniform outer surface about the

Art Unit: 3683

core. Note that a varied thickness is inherently formed when the saturated twisted or braided fibers are confined by outer tube 12 and cured.

Regarding claims 8-11, 2852424 discloses glass, rayon and epoxy resins.

Regarding claims 12-20, it is maintained that the recited method steps fail to further structurally define the claimed spring. See MPEP 2113.

Regarding claims 29-31, it is noted that the recited equations are standard equations used to describe coil springs. It is maintained that the performance of the spring of US 2852424 is inherently predictable by the standard equations since it is a coil spring.

Claims 1-5, 9-20, and 28-31 are rejected under 35 U.S.C. 102(b) as being anticipated by US# 4473217.

US 4473217 discloses all the limitations of the instant claims including; a spring wire comprising a core that includes a plurality of fiber tows 3 twisted about a longitudinal axis to create a contoured core surface; and an outer layer of resin that is substantially devoid of said fiber tows, wherein said outer layer has a thickness that varies along the longitudinal axis to form a generally uniform outer surface about the core. Note that the tape creates a "generally" uniform surface as broadly recited.

Regarding claim 9, see the abstract.

Regarding claims 10-11, US 4473217 discloses epoxy. Column 2, lines 56-58.

Regarding claims 12-20, it is maintained that the recited method steps fail to further structurally define the claimed spring. See MPEP 2113.

Regarding claims 29-31, it is noted that the recited equations are standard equations used to describe coil springs. It is maintained that the performance of the spring of US 4473217 is inherently predictable by the standard equations since it is a coil spring.

Claims 1-5, 10-20, and 28-31 are rejected under 35 U.S.C. 102(b) as being anticipated by US# 4991827.

US 4991827 discloses all the limitations of the instant claims including; a spring wire comprising a core 10 that includes a plurality of fiber tows twisted about a longitudinal axis to create a contoured core surface; and an outer layer of resin that is substantially devoid of said fiber tows, wherein said outer layer has a thickness that varies along the longitudinal axis to form a generally uniform outer surface about the core. See figure 4, and column 4, lines 15-34.

Regarding claims 10-11, US 4991827 discloses epoxy. Column 5, lines 3-4.

Regarding claims 12-20, it is maintained that the recited method steps fail to further structurally define the claimed spring. See MPEP 2113.

Regarding claims 29-31, it is noted that the recited equations are standard equations used to describe coil springs. It is maintained that the performance of the spring of US 4991827 is inherently predictable by the standard equations since it is a coil spring.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over US # 6454251 in view of US# 6612556.

US 6454251 discloses all the limitations of the instant claims with exception to a rectangular cross-section. US 6454251 instead shows a circular cross-section. US# 6612556 discloses a similar composite spring and further teaches both circular and rectangular cross-sections (column 4, lines 50-55) with the rectangular cross-section increasing the stiffness of the spring. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a rectangular cross-section as taught by US 6612556 in the spring of US 6454251 to provide an increased stiffness for the same area, thereby reducing size and providing an increased spring force for a given application.

Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over US # 49918217 in view of US# 6612556.

US 49918217 discloses all the limitations of the instant claims with exception to a rectangular cross-section. US 49918217 instead shows a circular cross-section. US# 6612556 discloses a similar composite spring and further teaches both circular and



Art Unit: 3683

rectangular cross-sections (column 4, lines 50-55) with the rectangular cross-section increasing the stiffness of the spring. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a rectangular cross-section as taught by US 6612556 in the spring of US 49918217 to provide an increased stiffness for the same area, thereby reducing size and providing an increased spring force for a given application.

Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over US # 4473217 in view of US# 6612556.

US 4473217 discloses all the limitations of the instant claims with exception to a rectangular cross-section. US 4473217 instead shows a circular cross-section. US# 6612556 discloses a similar composite spring and further teaches both circular and rectangular cross-sections (column 4, lines 50-55) with the rectangular cross-section increasing the stiffness of the spring. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a rectangular cross-section as taught by US 6612556 in the spring of US 4473217 to provide an increased stiffness for the same area, thereby reducing size and providing an increased spring force for a given application.

Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over US # 2852424 in view of US# 6612556.

US 2852424 discloses all the limitations of the instant claims with exception to a rectangular cross-section. US 2852424 instead shows a circular cross-section. US# 6612556 discloses a similar composite spring and further teaches both circular and

rectangular cross-sections (column 4, lines 50-55) with the rectangular cross-section increasing the stiffness of the spring. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a rectangular cross-section as taught by US 6612556 in the spring of US 2852424 to provide an increased stiffness for the same area, thereby reducing size and providing an increased spring force for a given application.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-20 and 28-31 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of copending Application No. 09/871755. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claim the substantially the same composite spring.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Response to Arguments***


Applicant's arguments filed 4/09/2004 have been fully considered but they are not persuasive. Please note the rejections above. Regarding Taylor, Figure 4 shows a varied outer layer. Also note that the pressurizing step is optional.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley T King whose telephone number is (703) 308-8346. The examiner can normally be reached on 11:00-7:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on (703) 308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BTK

  
ROBERT A. SICONOLFI  
PATENT EXAMINER  
12/27/04